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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,135	09/26/2003	Stephen C. Muma	22856/00302	6109

7590 09/27/2007  
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EXAMINER
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SAYALA, CHHAYA D

ART UNIT	PAPER NUMBER
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1761

MAIL DATE	DELIVERY MODE
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09/27/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/672,135

Applicant(s)

MUMA, STEPHEN C.

Examiner

C. SAYALA

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,7-10,19-23 and 27-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-2, 7-10, 19-23, 27-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08).  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8222007 entered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 7-10, 19-23, 27-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parent et al. (US Patent 5749934) in view of Trowbridge (US Patent 5451240) in view of Robinson (US Patent 4743287) and Austin et al. (US Patent 3024098) and further in view of Miele et al. (US Patent 6387145) and Stansbury et al. (US Patent Re 27238).

Parent et al. teach mixing peat with an diammonium phosphate and mono ammonium phosphate (see col. 2, lines 5-10). This mixture, called a precursor

composition, is mixed with a binder (col. 4, line 32) and extruded to granules. The humic acid content is given at col. 2, lines 58-60; and lines 20-34 at col. 5 teach the pre-extrusion composition, temperature conditions and extrusion with a binder. See col.4, lines 33. The concentrations of humate (peat) and phosphate are greater than 5% wt. See example 1. The remaining limitations such as Leonardite as the type of humate, the proportions, the iron oxide etc. are not disclosed

With regard to the process as in claims 21-23 or 27, the steps such as admixing the humate with a phosphate source is disclosed by this reference as discussed above. The temperature is kept at ambient temperatures and raised between 45-55° C (col. 5, lines 39-40) during extrusion, which step would also inherently press them together, and in disclosing size reduction, the patent teaches breaking the product to granules (see example 1 and col. 6, lines 12-13) and to a desired size. Sizing such granules are done by screening in the fertilizer art, and this too would have been obvious to the skilled person.

Trowbridge has been applied to show that: (col. 2, lines 20 +):

Leonardite ore, also known as humate ore, is believed to be an oxidized form of lignite coal which is mainly composed of the mixed salts of humic acids. It is unique in that it comprises decomposed vegetable growth and animal waste. Leonardite ore is a well-known source of humic acid and a wide variety of humates. It has also long been known to be a source of organic material adapted for use as soil and foliar additives having application in the regulation of plant growth. Moreover, it contains significant amounts of humic acid fractions, such as humic, ulmic & fulvic acids, that are vital to plant life.

At col. 5, lines 20+, patent also states:

There are several known sources of humic acid, including peats, peat moss, humates, lignite and brown coal. These sources, however, contain insignificant amounts of humic acid and are thus not considered to be valuable sources of humic acid. Leonardite ore, which is an oxidized form of lignite coal, however, has generally been found to contain significant quantities of recoverable humic acid.

Therefore, to consider peat and Leonardite as alternates or equivalents, in that they are both humic acid sources, or to substitute Leonardite for peat, since Leonardite as a source provides a higher content of humic acid, would have been obvious to the person of ordinary skill in the art at the time the invention was made. Note too, the screening feature to size particles of Leonardite at col. 5, lines 49-51.

With regard to amounts of phosphate and humate, Robinson teaches that determining amounts of humates and other nutrients is based on calculating and measuring desired quantities depending on the desired chemical make up required for the type of crop and soil, and the measured quantities of other nutrients, see col. 4, lines 50-57. For instance, Robinson prepares a dry granulated fertilizer combining compost (that would contain humic acid) and rock phosphate with amounts shown in % dry wt. for compost and phosphate: 52.5%, humic acid and 19.16% rock phosphate. Such amounts overlap with those claimed herein. It would have been obvious to the skilled worker to use such disclosure to combine the peat or Leonardite with phosphate as in Parent et al. and Trowbridge, as required.

With regard to using carbohydrate binders as in claims 19-20, see col. 3, lines 59-60 in Austin et al. Austin et al. teach that phosphate-containing fertilizers can be compressed into a unitary mass of desired size, along with a binder, such as starch

(see col. 3, lines 59-62). Although the patent does not teach humates, it includes another nitrogen-containing compound, urea formaldehyde, an organic fertilizer. Example 3 teaches that when this unitary mass is used, it releases slowly; whereas, if powder is used, it contributes to a quicker release. Thus, depending on the needs of the artisan, it would have been obvious to one of ordinary skill in the art to grind the unitary mass to a powder or to the desired granular size. The patent teaches suitable conditions to compress the nutrients. This disclosure renders obvious the fact the pressure and temperature during compression would have been within the realm of ordinary skill.

With regard to the addition of iron oxide, Miele et al. teach combining humic acid containing nitrogenous substances with phosphates- See col. 2, lines 42-44, to form granules. The phosphates are shown at col. 3, as are the amounts. Col. 4 teaches adding microorganisms to the granule fertilizer composition and discloses Leonardite, see lines 14-27, as well as carbohydrates and silicates, known to be binders, as shown by the other applied patents. Col. 4, lines 40 + teaches that nitrogen of natural origin (as in humates) can be combined with phosphates in required amounts. See line 56, (combination A + B). The composition also teaches adding microelements such as iron as oxide, see col. 3, line 50, claim 13. To incorporate such micro-elements, as iron oxide, in required amounts in the invention of Parent et al. and Trowbridge combined, as applied, would have been prima facie obvious because, these micro-elements are essential for fertilizing and plant growth, and the same may be said of microorganisms

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as well, which are useful for their biological action in the soil, such as solubilizing phosphate from its ore, already known in the art.

With regard to claims 2 and 29, Stansbury et al., address a method of making a slow release extruded, compressed, pelletized fertilizer composition teaches coating it with wax to provide a barrier . The controlled release fertilizer formed, contains nutrients including trace elements (see col. 2) co-mixed, and the patent teaches forming the mixture into pellets. See col. 2, lines 14 + which teaches sieving the elements, mixing them and coating the granules. For the benefit of obtaining a controlled release fertilizer, it would have been obvious to coat the fertilizer granules of Parent et al. and Trowbridge also.

### ***Response to Arguments***

Applicant's arguments filed 8/22/2007 have been fully considered but they are not persuasive.

The arguments have been carefully reviewed. Some of the references applied previously such as Moore, have been withdrawn in view of the to the claims. Since applicants arguments are based on the inclusion of Leonardite in the claims, applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Note that one of ordinary skill in the art would have been motivated to substitute Leonardite for peat, both containing humic acid, Leonardite more than peat, since

Leonardite provides the desirable objective of providing a greater nitrogen content in the fertilizer.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Sayala whose telephone number is (571) 272-1405. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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